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ENTOLOMA EXIGUUM, A NEW SPECIES OF SUBGENUS CLAUDOPUS (ENTOLOMATACEAE, AGARICALES) FROM SPAIN

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Entoloma exiguum sp. nov. is described. It belongs to subgenus *Claudopus* and is characterized by the tiny size, very reduced stipe, white colours of the fruit-bodies, tapering pileus hairs and spores with 6–8 angles. A discussion about some other close taxa is given, as well as drawings of micromorphological characters.

During the summer of 1997, a species of *Entoloma* (Fr.) P. Kumm. with tiny fruit-bodies, belonging to the subgenus *Claudopus* Gillet, was discovered growing gregarious among detritus under herbaceous plants at the edge of a reservoir. The locality is situated on marl and limestone, and was formerly used as a vegetable garden remaining abandoned since the construction of a dam. The river banks where the fruit-bodies were found become flooded only in rainy years. They remain inundated only for a short period during the summer, before water is taken from the reservoir to irrigate downstream fields. As a consequence of this, a particular amphibious vegetation develops similar to that of calcareous vernal ponds, with *Gnaphalium luteo-album*, *Pulicaria paludosa*, *Potentilla supina*, *Juncus gerardii*, *Plantago major* subsp. *intermedia*, *Crypsis schoenoides*, etc. (de la Cruz et al., 1995). Deposition of floating organic matter, mainly mud and plant debris, takes place over this vegetation, generating a belt of nitrophilous vegetation around the banks of the reservoir. *Polygonum lapathifolium*, *Polygonum persicaria*, *Eragrostis minor* and other herbaceous species, under which the fruit-bodies were collected, usually cover this belt.

According to Hawksworth et al. (1995), the number of *Claudopus* taxa known is about 20, mostly from the northern hemisphere. In Europe, according to Noordeloos (1992, 1995), in section *Claudopus* seven species have been recognized, but some others will probably be discovered in future. In this section, the small size of the basidiomata and some possible confusions with other 'crepidotoid' agarics are probably the cause of this actual reduced number. The taxa belonging to section *Claudopus* show little macroscopic variation and their colours range predominantly from whitish to greyish (exceptionally bluish!); nevertheless, microscopic characters, especially related to sporal shape and type of covering layers, are quite different and permit a clear distinction among many taxa. In this section some species show a characteristic farinaceous or mephitic (garlic-like) smell, such as *Entoloma mephiticus* (Murrill) Hesler or a still undescribed new species recently found in Spain (Horak et al., in prep.), but many of them are odourless. Other species show a peculiar parasitic or saprophytic relationship with other fungi, e.g. *Entoloma parasiticum* (Quél.) Kreisel or *E. pseudoparasiticum* Noordel.

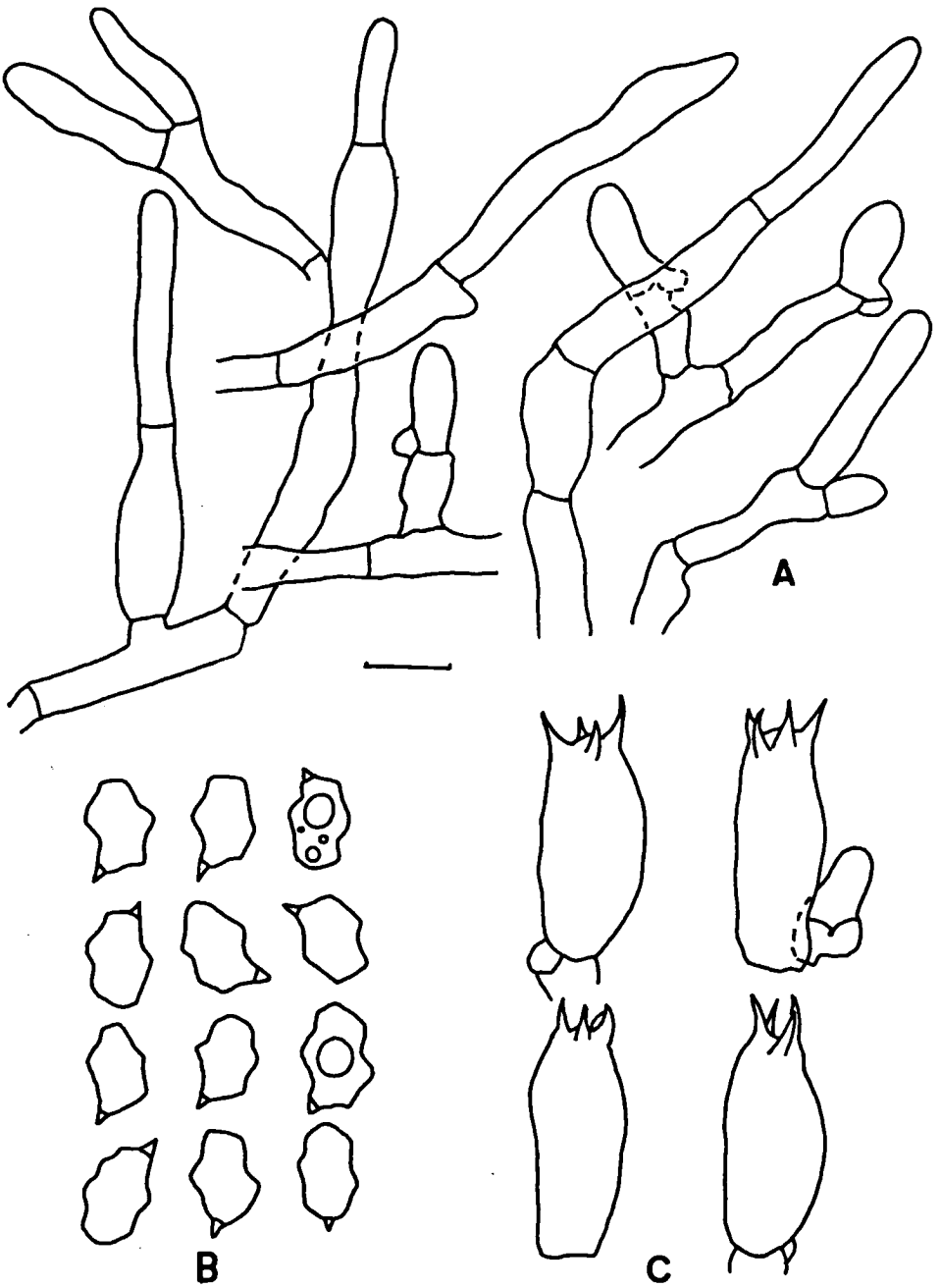

Fig. 1. *Entoloma exiguum* (AH 23321, holotypus). A. Terminal cells of the pileipellis; B. spores; C. basidia. — Bar = 10 µm.

Entoloma exiguum Esteve-Rav. & M. de la Cruz, *spec. nov.* — Fig. 1

Pileus 2–5 mm latus, plano-convexus vel applanatus, haud hygrophanus, haud translucido-striatus, candidus, pubescenter tomentosus; lamellae distantes, adnatae vel decurrentes, primo candidae, demum roseae, acie lamellarum concolore. Stipes usque ad 1.5 × 0.3–0.5 mm, excentricus vel lateralis, curvatus, candidus, pubescenter tomentosus. Odore nullo. Sporae 9.5–12 × 6.5–8.3 µm, Q = 1.15–1.75, 6–8 angulatae. Basidia utriformia, 4-spora. Cheilocystidia et pleurocystidia desunt. Tegimen pilei in trichoderma abiens, hyphis 4–12 µm latis, septatis cylindricis, extremis partibus attenuatis. Fibulae praesentes ad basim basidiorum. Pigmentum desunt. In detritis putridis et residuus plantarum.

Holotypus: Hispania, Guadalajara, Palmaces, 17 Aug. 1997, *M. de la Cruz & M. Martínez*, in herb. Alcalá (AH 23321) conservatur.

Pileus 2–5 mm diam., plano-convex to applanate, becoming slightly depressed when old, not hygrophanous, not translucently striate, white, white pinkish when old because of the colour of the lamellae, uniformly hairy-furfuraceous, especially at the centre, less so when old. Lamellae well-developed, L = 7–12, distant, adnate to distinctly decurrent, sometimes forked, at first white, then becoming pink, with concolorous, entire edge; lamellulae l = 0–1. Stipe up to 1.5 × 0.3–0.5 mm, central to distinctly eccentric, white, tomentose. Smell none.

Spores 9.4–12 × 6.4–8.3 µm (average 10.8 × 7.4 µm), Q = 1.15–1.75, average Q = 1.45 (n = 21), 6–8 angled in side-view, some with subundulating outline. Basidia 25–32 × 11–12.5 µm, typically utriform, with clamp-connection at the base. Lamella edge fertile. Pileipellis a trichodermis with attenuated, septate hyphal ends, constricted at the septa, 4–12 µm wide, without pigment. Lamellar trama regular to almost regular, made up of branched hyphae 3–10 µm wide. Stipe covering similar to that of pileus. Clamps present in the hymenium, scattered in the other parts of the fruit-body.

Material studied. SPAIN: Guadalajara, Pálmaces, Pálmaces reservoir, north edge, 30TWL0545, 890 m alt., 17 Aug. 1997, among plant detritus in half-flooded calcareous soils, *M. de la Cruz & M. Martínez* (holotype, AH 23321).

The 'crepidotoid' habit of *E. exiguum* clearly places this species in *Entoloma* subgenus *Claudopus* section *Claudopus*. The combination of typically attenuated and septate hairs of the pileipellis, together with the utriform, short basidia, the spores with very angular to subundulate outline and the presence of clamp-connections are characteristic.

Species with white colours, of which habit and ecology might resemble *E. exiguum,* are *E. albotomentosum* Noordel. & Hauskn. and *E. jahnii* Wölfel & Winterh. Both have been found growing on plant and grass debris, in paludicolous and silvicolous habitats. *Entoloma albotomentosum* is very similar to *E. exiguum*, but it is clampless, has larger basidia, and the spores are less angular (4–6 angled) with a different shape (Noordeloos & Hausknecht, 1989). *Entoloma jahnii* is characterized by the presence of clavate to subcapitate hairs in the pileipellis and stipitipellis and, like *E. exiguum*, has clamps in the hymenium, though its spores seem to be different too (Wölfel & Winterhoff, 1993).

Though it shows an encrusting greyish pigment in the fruit-bodies, *E. ollare* Ludwig & Rödig somewhat resembles our new species in the pileipellis structure, but was found in a very peculiar habitat, a flower-pot, and its farinaceous smell and a well developed stipe would place it occupying an intermediate position between sections *Claudopus* and *Undati* (Ebert et al., 1992).

From North America, none of the *Claudopus* taxa described or commented on by Hesler (1967), Noordeloos (1988), Baroni (1990), and Largent (1994) fit in with *E. exiguum*. In literature concerning *Entoloma* sensu lato from areas in central America and the southern hemisphere (Dennis, 1961; Horak, 1973, 1978, 1980, 1982; Pegler, 1977a, 1977b, 1986, 1988; Romagnesi, 1941; Romagnesi & Gilles, 1979), we have not been able to find any taxon showing the combination of characters of the new species. It seems that the subgenus *Claudopus* is poorly represented at these latitudes too.

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